

Abstract

^A The object of the present invention is to provide a
a method ^{of} ~~for~~ manufacturing a semiconductor device ~~that~~ uses
a oxide dielectrics for the capacitor and ^{is able} to suppress the
a oxidation at the interface of ^a lower electrode of the
capacitor. The oxide dielectric capacitor is composed of
a lower electrode layer 11, ^{an} oxide ^{dielectric layer} ~~dielectrics~~ 16 positioned
on the lower electrode layer 11, and an upper electrode layer
17 positioned on the oxide dielectric layer 16. The lower
electrode layer 11 includes a double-layered conductive
a oxide layer 12. ^{The} ~~These~~ adjacent two layers 14 and 15 are
a composed ^{to have} ~~in~~ the same crystal structure and ^{are of} ~~with~~ the same
element. The layer 14 positioned at the substrate 10 side
a ^{has on} ~~includes~~ oxygen deficiency. And, since the conductive oxide
layer 14 ^{which has on} ~~including~~ oxygen deficiency functions to prevent
oxygen diffusion, the component 13 of the lower electrode
a layer, adjacent to the layer 14, as well as its interface,
a can be prevented from ^{oxidizing} ~~oxidation~~, thereby assuring a proper
electrical connection between them.

0042046-021899